UNITED STATES
DEPARTMENT OF THE INTERIOR

BUREAU OF LAND MANAGEMENT
Fire and Aviation Directorate
National Interagency Fire Center
Lead Agency for the Joint Fire Science Program

Joint Fire Science Program

The Joint Fire Science Program provides funding for scientific studies to address problems associated with managing wildland fuels, fires, and fire-impacted ecosystems.

Department of the Interior and Related Agencies Appropriation Act for FY 1998 and subsequent years
(P.L. 105-83; H.R. Report 105-163)

PROJECT ANNOUNCEMENT No. FA-FON0014-0001
Primary Announcement (7 Task Statements)

CFDA No. 15.232
ISSUE DATE: September 26, 2013

JFSP Funding Opportunity Notice (FON) 2014-1

CLOSING DATE & TIME

~~November 22, 2013~~ 5:00 p.m. MST
The closing date has been extended to December 11, 2013 5:00 p.m. MST

Contact Information:

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SECTION I. FUNDING OPPORTUNITY DESCRIPTION

A. Legislative Authority: Department of the Interior and Related Agencies Appropriation Act for FY 1998 and subsequent years (P.L. 05-83; H.R. Report 105-163).

B. Project Background Information: The Joint Fire Science Program (JFSP) is a partnership of six federal wildland management and research agencies with a need to address problems associated with managing wildland fuels, fires, and fire-impacted ecosystems. The partnering agencies include the U.S. Department of Agriculture, Forest Service and five bureaus in the U.S. Department of the Interior: Bureau of Indian Affairs, Bureau of Land Management, National Park Service, Fish and Wildlife Service, and the Geological Survey.

For further background on the JFSP, those considering submitting proposals are encouraged to visit our website at www.firescience.gov

C. Program/Project Objective: The U.S. Congress directed the Department of the Interior and the USDA Forest Service to develop a Joint Fire Science Program and Plan to prioritize and provide sound scientific studies to support land management agencies. Current priorities are identified as task statements in the Funding Opportunity Notice (FON).

D. Statement of Joint Objectives/Project Management Plan: The JFSP Governing Board and Program Manager will establish an oversight relationship with the Principal Investigator on each funded project. Projects will be required, at a minimum, to provide a written progress report annually.

E. Period of Project: The JFSP Governing Board generally anticipates that individual projects can be accomplished within three years or less.

SECTION II. AWARD INFORMATION

A. Expected Number of Awards: Approximately 15-25

B. Estimated Total Program Funding: Approximately $6,000,000

C. Award Ceiling: None

D. Assistance Instrument: To be determined at a later date by the JFSP

SECTION III. ELIGIBILITY INFORMATION

A. Eligible Applicants: The JFSP encourages proposals from all interested parties. All selected awardees must provide a valid Dun & Bradstreet number (D&B). You can reactivate or obtain this at http://www.dnb.com or by calling 800-333-0505. There is a federal agency link on the Central Contractor Registration system (CCR) at http://www.ccr.gov .

B. Funding Cooperator: JFSP will enter into only one agreement with the PI institution or the funding cooperator agency. Budgets must be reviewed by your Budget contact and your Agreements contact prior to proposal submission.

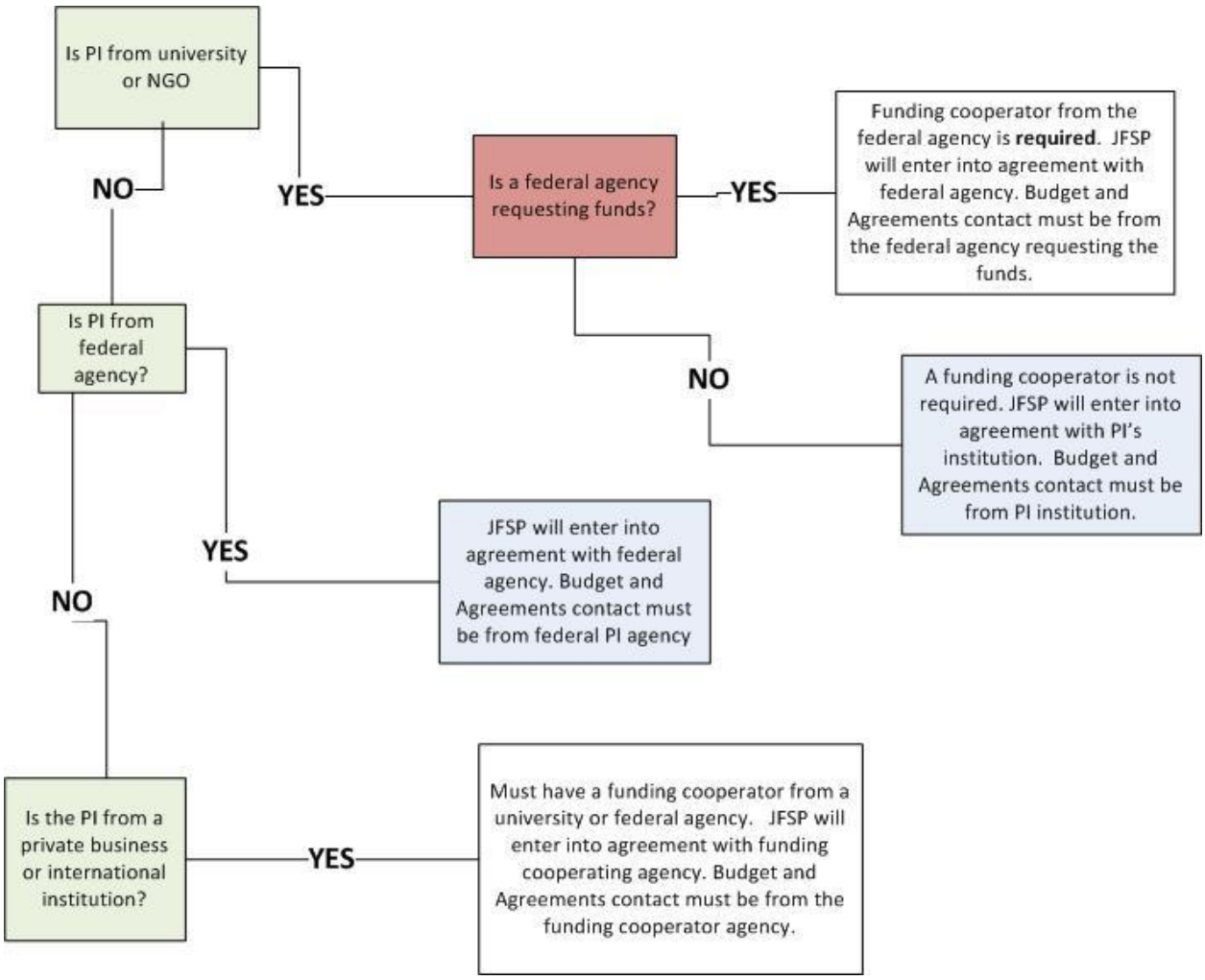
Funds will be awarded through a federal agency, a university, or a non-governmental organization (NGO). Proposals that included budgeted funds to be spent by a federal agency and that do not have a federal PI must list a funding cooperator from the federal agency requesting funds. Similarly, proposals with a university or NGO PI that do not include funding for federal agencies do not need a funding cooperator and funds will route through the PI's institution.

All proposals with a PI from other organizations, e.g., states or private business, or have any international funding, must also identify a funding cooperator to receive and process the funds. If the funding cooperator is from the Forest Service, the cooperator must be from a Forest Service research station. The Agreements contact and Budget contact must be from the funding cooperator's institution.

Proposals where the PI or funding cooperator is an employee of a university or NGO will be funded directly by an award document (e.g., a cooperative agreement) between JFSP and the PI's institution. The institution will be required to respond to a second non-competitive posting on grants.gov to initiate funding.

Upon receipt of a fully executed award document, the institution receiving funds from JFSP will be responsible for all sub-award transactions to cooperators or contractors related to the project. The end date and indirect costs for all sub-awards must match the end date and indirect costs in the original funding award document.

(See funding cooperator flowchart below)



C. Cost Sharing or Matching: This program has no matching requirements. However, in-kind contributions are desired and are an evaluation factor.

SECTION IV. APPLICATION AND SUBMISSION INFORMATION

A. Proposal Submission and Agency Contact

All proposals must be submitted by 5:00 p.m. MST December 11, 2013, using the electronic submission process provided on the JFSP website (www.firescience.gov). Proposals should not be submitted in Grants.gov. There will be no exceptions to this closing date and time.

All proposals must meet all requirements in this FON (see especially Section IV. E below). Proposals that do not meet all requirements in this section will not be considered for funding.

Proposals must be submitted for the appropriate task statement being addressed. The proposal will be reviewed and its merits judged in the context of this one task statement only.

Questions should be directed to:

Administrative questions:
Becky Jenison, Administrative Analyst
Joint Fire Science Program
National Interagency Fire Center
3833 S Development Ave
Boise ID 83705
Phone: 208-387-5958
Email: bjenison@blm.gov

Task statement questions:
John Cissel, Program Manager
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National Interagency Fire Center
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B. Steps to Create and Complete a JFSP Proposal

There are multiple steps necessary to create a JFSP proposal, some of which are dependent on prior steps. We recommend that investigators plan ahead, start early, and use the following process to create a proposal:

Step 1 – PI establishes profile, updates password

Step 2 – PI initiates proposal (select task, receive proposal #, enter proposal title)

Step 3 – Enter contacts (all contacts establish profiles, update passwords; PI assigns roles)

Step 4 – Investigators develop proposal (templates, requirements)

Step 5 – Complete budget (template, narrative)

Step 6 – Attach all documents (proposal, budget, budget narrative, data management plan, CVs, support letters (optional), salary justification (if needed))

Step 7 – PI enters final details (project location, budget summary, start/end dates, abstract, project category)

Step 8 – Budget Contact and Agreements Contact certify reviews

Step 9 – PI submits proposal (convert to Final Draft status first if not previously done)

Notes

- Step 8 is a new requirement this year
- Many steps can be in progress concurrently
- All information, including attachments, can be saved as Draft and edited later

C. Task Statement(s)

1. Fuels treatment effectiveness across landscapes

The Joint Fire Science Program (JFSP) is soliciting proposals for research that evaluates the effectiveness of fuels treatments across landscapes (>10,000 acres). Studies are needed to

determine whether the type and configuration of fuels treatments across landscapes can affect intensity, rate of spread, and patterns of severity for subsequent wildfires, or enable more effective wildfire response. If strategic landscape placement of fuels treatments can limit the intensity and severity of large wildfires where appropriate, it should provide opportunities for effective fire suppression strategies that minimize costs and threats to values at risk while maximizing firefighter safety and the ecological benefits of wildfire. The JFSP Governing Board is interested in proposals that examine how landscape fuels treatment strategies can facilitate management of wildfires to serve as effective fuels treatments.

Past studies on effectiveness of fuels treatment have largely focused on detecting changes in wildfire rates of spread and severity in a fuels treatment at the stand level. From this work, we know that fuels treatments can be effective in meeting fire behavior objectives. Yet managers also recognize that it is neither appropriate nor possible to treat all areas that could be subject to wildfires. Modeling studies in hypothetical landscapes have shown that wildfire extent could be significantly reduced when fuels treatments are strategically implemented in a small portion of a landscape. However, this work remains largely theoretical, as the effects of fuels treatment placement, size, type and configuration on wildfire spread patterns (size and severity) and behavior (intensity and rate of spread) at landscape scales has not yet been sufficiently examined. Moreover, it is unclear if these fuels treatments can be effective under extreme climatic conditions.

This task supports a major management and policy recommendation from the National Cohesive Wildland Fire Management Strategy (http://www.forestsandrangelands.gov/strategy) to prioritize fuel treatments that have a high likelihood of reducing undesired fire behavior, and to implement strategically placed treatments where the effects on landscapes extend beyond the area physically treated.

Submitted proposals must directly address at least one of the following questions:

- How does the amount and configuration of fuels treatments across landscapes influence intensity, rate of spread, or patterns of severity for subsequent large wildfires?
- How does the answer to the question above vary with characteristics of fuels treatments (i.e., type, intensity, age, spatial pattern), climatic variables (i.e., fire danger rating), or environmental (i.e., terrain, fuel type) conditions?
- What landscape fuels treatment strategies best enable effective wildfire response strategies?
- How can landscape fuels treatment strategies maintain effectiveness over time?

JFSP is only interested in proposals that address these questions for large wildfires at landscape scales (>10,000 acres). Fuels treatments can include any planned vegetation management treatment that has fuels reduction as a primary objective. It is expected that investigators will use field-based studies, modeling, or a combination thereof to address these questions. Alternative outcomes could be evaluated through integrated scenario assessments, an approach that has been used effectively to address the effects of management activities across landscapes.

2. Influence of past wildfires on wildfire behavior, effects and management

The Joint Fire Science Program (JFSP) is soliciting proposals for research that evaluates the influence of past wildfires on subsequent wildfire behavior, effects, and management, including suppression strategies, tactics and costs. Opportunities for incorporation of past fires into wildfire management strategy and tactics are increasing as the annual area burned has increased significantly over the last 20 years. However, the degree to which past wildfires act as effective fuels treatments that meets both ecological and fire behavior objectives is unknown, nor is it well understood how past wildfire burn areas are considered when developing strategies and tactics for managing subsequent wildfires.

Funds spent on wildfire management and suppression increased dramatically over the last 20 years, concurrent with the increase in annual fire area burned. Costs of suppressing wildfire incidents tend to increase with fire size, severity, and proximity to the wildland urban interface. While fuels treatments have been shown to lower fire severity and suppression costs in some instances, annual fire suppression expenditures continue to rise. Wildfire policymakers have struggled with this issue, instituting a variety of policies in an attempt to reduce costs.

Wildfires and related wildfire management activities currently affect a much larger land area annually than do fuel treatments planned and funded through fuels treatment programs. Significant land areas are also treated by burn-out operations, fire breaks, and other fuels treatments as part of wildfire response and management. However, little is known about the extent to which wildfire and related wildfire management activities influence patterns of spread and severity for future wildfires, or how they may influence future fire suppression costs.

Risk assessments and action plans from the National Cohesive Wildland Fire Management Strategy (http://www.forestsandrangelands.gov/strategy) regions also identify the need to develop integrated fuel treatment and suppression programs when developing appropriate strategies for wildland fire management.

Submitted proposals must directly address one or more of the following questions:

- How do different characteristics of past wildfires (e.g. age, size, severity, cover type) influence patterns of subsequent wildfire spread and severity? To what degree have past wildfires established conditions that could be considered effective fuels treatments that meet ecological and fire behavior objectives?
- How do past wildfires influence opportunities for different management strategies for subsequent wildfires? For example, can past wildfires facilitate minimal suppression tactics in cases where subsequent wildfires are providing ecological benefit, or reduce costs or increase firefighter safety where full suppression tactics are needed? How do different wildfire management strategies influence costs of managing future wildfires?
- What social and management settings are best suited for managing wildfires as fuels treatments? How do differing social and management settings influence the use of past wildfires as part of wildfire response strategies?

Investigators are encouraged to use multiple examples of recent wildfires to research these questions, and to evaluate differences between past wildfires that meet ecological objectives and landscape restoration goals and ones that did not. Alternative outcomes could be evaluated

through integrated scenario assessments, an approach that has been used effectively to address the effects of management activities across landscapes.

JFSP is particularly interested in proposals that examine these questions on non-wilderness lands. Studied wildfires can include those managed for resource benefit. The Board encourages cross-disciplinary approaches.

3. Contribution of smoke emissions to secondary organic aerosols

The Joint Fire Science Program (JFSP) is soliciting proposals for research that develops new science and knowledge to support improvement of wildland fire smoke emissions factors for secondary organic aerosols (SOAs). Hydrocarbon emissions that chemically transform within the atmosphere to form secondary organic aerosols are now thought to be a significant component of total PM2.5. New science is needed to better understand the role and significance of wildland fire in formation of SOAs.

Wildland fire emission factors are used in various smoke modeling systems to evaluate attainment of National Ambient Air Quality Standards, develop emission inventories, and to accurately estimate the contributions of wildland fires. A cohesive approach is necessary to ensure that planning mediates the effects of emissions on public health. JFSP is interested in a critical assessment of emission factors commonly used in these modeling systems with respect to chemical species that contribute to formation of SOAs.

Responsive proposals must address at least one of the following questions:

- What atmospheric chemical processes transform fire emissions into SOA? Of the known chemicals emitted from fires that contribute to formation of SOA, which of their emission factors most need to be improved?
- To what extent do fire combustion phase, fire intensity, fuel characteristics, and type of fire (prescribed fire or a wildfire) influence the production of precursors to SOAs?
- Do the emission factors and the chemical transformation mechanisms used in current smoke emissions and modeling systems sufficiently account for the production and aging of SOAs?
- What magnitude of change is expected in the fire National Emissions Inventory (NEI) for $PM_{2.5}$ from proposed improvements in SOA precursor emission factors?

Results from this work are expected to include revised and improved emissions factors from fires for chemical precursors to SOAs. The intent is to improve emission factors to analyze fire's contributions retrospectively rather than forecasting smoke. Science that leads to better understanding of the chemical processes that form SOAs is desired.

This solicitation is a component of the JFSP Smoke Science Plan (SSP; https://www.firescience.gov/documents/smoke/2010_JFSP_Smoke_Science_Plan_Final_Version_without_Appendix_B_1.0.pdf). Investigators should plan to participate with other SSP investigators, Cohesive Strategy working groups, smoke managers or regulators in various communication and coordination activities, such as conference calls, workshops or webinars.

4. Effects of smoke from wildland fires on human health in urban centers

The Joint Fire Science Program (JFSP) is soliciting proposals for research that assesses the impact of wildland fire smoke on human health in urban centers in the United States. The Action Plans from each of the National Cohesive Wildland Fire Management Strategy (http://www.forestsandrangelands.gov/strategy) regions have identified the need for coordinated science focused on smoke management. Research topics of interest include the extent of past observed adverse health effects **using selected case studies, and** wildland fire smoke concentration **and exposure duration thresholds** associated with public health concerns.

Proposals should assess a limited number of case studies of historical wildland fire smoke episodes in locations where there is likely to be a recurring need for actions to manage smoke-related public health risk. Case studies may include international cities if they offer lessons of relevance to the United States.

JFSP is interested in proposals that collect, collate, and utilize the latest published information about potential public health impacts from smoke emission events from both wildfire and prescribed fire. Proposals may consider all fire emission species, but should focus on fine particulates and ozone exposures as they relate to the National Ambient Air Quality Standards.

Responsive proposals are expected to include data collection and analysis to address at least one of the following questions:

- What type, magnitude, and extent of adverse health effects have been documented (e.g. hospital admission records or other clinical evidence) from past smoke intrusions? Which emissions are responsible for documented health effects?
- At what levels of smoke concentration should evacuations or other extreme evasive actions be considered, recommended, or required?
- How do these concentrations relate to current and proposed air quality indices?
- What methods could be employed to estimate or measure smoke concentration levels with spatial coverage appropriate to the level of potential air quality impact and potential resulting public risk, especially in locations with no or limited monitoring data?

Proposals should consider how proposed work and results could be coordinated with results from JFSP projects 11-1-7-4 (Future Mega-Fires and Smoke Impacts, Larkin) and 11-1-7-2 (Impacts of Mega-Fires on Large US Urban Area Air Quality Under Changing Climate and Fuels, Liu). These projects are addressing the potential for transportation of smoke from mega-fires to large urban areas. More information about these projects can be found on www.firescience.gov. The definition of a mega-fire can be found in the Summer 2011 NIFC newsletter (http://www.nifc.gov/aboutNIFC/about_documents/newsletter/bi_Summer2011.pdf).

This solicitation is a component of the JFSP Smoke Science Plan (SSP; https://www.firescience.gov/documents/smoke/2010_JFSP_Smoke_Science_Plan_Final_Version_without_Appendix_B_1.0.pdf). Investigators should plan to participate with other SSP investigators, Cohesive Strategy working groups, smoke managers or regulators in various communication and coordination activities, such as conference calls, workshops or webinars.

5. Compatibility of fire and fuel treatments with threatened and endangered bats

The Joint Fire Science Program (JFSP) is soliciting proposals for research that investigates the compatibility of fire and fuels management activities with habitat and population restoration of federally listed or candidate threatened and endangered (T&E) bat species. Wildland fire managers require up-to-date and high quality science that defines the effects of fuel treatment and wildfire on wildlife habitat in order to effectively establish and maintain resilient landscapes, enhance human communities, and to respond to wildfire. Bats provide important ecosystem services, such as insect and pest predation, pollination, and seed dispersal. Bat species also frequently occur in fire-adapted ecosystems where fuels management and wildfire response activities are designed to maintain and restore resilient landscapes. Thus, we are interested in these activities and how they may also compliment T&E Species habitat conservation and recovery plan objectives.

Listed bat species frequently occur in areas intended for fuels management or in areas affected by wildfire, necessitating close coordination of fuels and fire management activities with T&E conservation and recovery plans. JFSP seeks research that could be used to improve the effectiveness of fire and fuels management activities and their compatibility with T&E conservation guidelines.

All proposals submitted under this task statement must directly address at least one of the following questions, and have a high likelihood of producing information useful to managers:

- *Fuels treatment* - How can season and prescription windows for prescribed burning be chosen to minimize negative effects or enhance positive effects to T&E bat species habitats or populations? What specific fuel treatment prescription parameters and environmental factors result in better achievement of both fuel treatment and bat habitat objectives?
- *Wildfire management* – What are the direct and indirect effects of wildfire on T&E bat species habitat or populations? What management activities during and after wildfires can minimize negative effects or enhance positive effects to T&E bat species habitat and populations?

This research should use multiple lines of evidence and interdisciplinary analysis to illuminate which fire and fuels management activities, parameters and/or associated environmental factors correlate with beneficial, harmful, or neutral outcomes for T&E bat species. Research that illuminates the temporal trade-offs related to fuels treatment on bat habitat or populations is desired. Results should inform guidelines for minimizing negative direct and indirect effects and maximizing the benefits of fire and fuels treatments on T&E bat species, while also meeting fire management objectives across organizations.

6. Effects of wildfire on water

The Joint Fire Science Program (JFSP) is soliciting proposals for research that evaluates the effects of wildfire on the quantity, quality, and treatability of drinking water supplies, and their recovery over time. High-quality water is a critical ecosystem service furnished by watersheds to communities across the United States. The National Cohesive Wildland Fire Management Strategy (http://www.forestsandrangelands.gov/strategy) also identifies the need for science that

evaluates the effects of fuel treatment and wildland fire management on watersheds and to enhance recovery of municipal water supplies.

Burned watersheds are often prone to increased flooding and erosion, which can damage infrastructure, reduce water quality, and impair reservoirs and drinking-water treatment processes. More information is needed regarding the effects of wildfire on water quantity, quality and treatability over the short and long term in order to establish proactive fuel treatment programs, appropriate wildfire response strategies, and post-fire restoration activities that protect watersheds.

Some communities invest a great deal in fuels treatments in key watersheds that supply municipal water to increase water supply in the absence of wildfire, and to protect water resources and reduce the potential for flooding in the event of a wildfire. Yet, little is known about the potential for fuels treatments to improve water supply and mitigate the effects of wildfire on critical water resources. Information is needed on the most appropriate fuels treatment type, size, intensity and frequency needed to significantly influence water supply and ensure municipal watersheds are resilient to wildfire.

Submitted proposals must address one or more of the following questions:

- *Water quality* - What are the effects of wildfire on drinking water quality, and how do effects change over time? Under what conditions (e.g., watershed size, location, dominant precipitation form) and wildfire characteristics (e.g., fire severity, percentage of watershed burned) are wildfires likely to impact drinking water quality or treatability?
- *Water quantity* - What are the effects of wildfire on the potential for increased peak flows and damaging floods, and how do effects change over time? Under what conditions (e.g., watershed size, location, dominant precipitation form) and wildfire characteristics (e.g., fire severity, percentage of watershed burned) are wildfires likely to increase peak flows?
- *Fuel treatments* - How can pre-fire fuels treatments be designed to significantly mitigate the potential effects of wildfire on drinking water quality and peak flows or improve water supply in the absence of wildfire? What watershed conditions and watershed-scale fuels treatment strategies are likely to reduce peak flows, increase annual water yields, or reduce negative effects to water quality?

Proposals should use standard measures of water quality (temperature, sediment, turbidity, or chemistry) and water budget (storage, streamflow, runoff, infiltration, interception, and evapotranspiration) to enhance the comparability of studies. JFSP is only interested in proposals for studies that examine wildfire effects at watershed to landscape scales.

7. Fire weather data resolution

Weather data are critical inputs for many important fire management applications, e.g., assessments of fire danger, fire behavior, and smoke dispersion. Scientists and managers alike often assume that increased resolution of fire weather variables leads to increased accuracy of model outputs, thus leading to improved management decisions and outcomes. Increased resolution of weather data comes at a cost, however, and budgetary resources are increasingly scarce.

The assumption apparently underlying the argument that higher resolution weather data are needed is that fire and fuel managers hedge against uncertainty by taking less risk. Therefore, higher resolution data reduces uncertainty, thereby opening a wider window for fire and fuels operations at the same levels of risk. In essence, if more reliable model predictions were available, managers would have more flexibility and options.

The Joint Fire Science Program (JFSP) is interested in proposals that critically examine this assumption in an operational context. JFSP seeks proposals that examine the sensitivity of modeled results to the resolution of weather variables, and evaluate the importance of modeled results using weather data for fire and fuels management decision-making.

Responsive proposals must address the following questions:

- What modeled results using weather variables are directly tied to fire and fuels management decisions? What is the relative importance of these modeled results to decision-making?
- What is the importance or sensitivity of the weather variables to the modeled results? What changes in weather values result in the greatest impact to fire danger and fire behavior outputs?
- What improvement in forecast accuracy would have the greatest benefit to wildland fire operations?

Results from funded studies are expected to inform future fire weather research priorities, improve fire and fuels management decisions, and to assist with weather station siting and maintenance decisions. Results that identify or evaluate potential thresholds or management trigger points (e.g., go or no-go burning decisions, pre-position decisions in operating plans) are desired.

D. Budget and Funding Policy

1. Funding Cooperator

Proposal may require a funding cooperator. See Section III.B above.

2. Indirect Costs

The JFSP Governing Board recognizes the need of agencies and organizations participating in the program to recover reasonable indirect costs. However, cost effectiveness of the individual projects is a determining factor in the final selection process. Indirect rates for JFSP proposals are limited to a maximum of twenty (20) percent of the direct costs for each institution. The maximum indirect rate that a funding cooperating institution may charge for pass-through costs is ten (10) percent. Proposals with indirect rates higher than twenty (20) percent will not be considered. Proposal funding through a federal funding cooperator must reflect either the prevailing indirect rate for the cooperating federal agency or the JFSP maximum limit of twenty (20) percent, whichever is less.

Pass-through costs are charged only by the PI institution or funding cooperator institution for administrative costs associated with managing sub-agreements. Pass-through costs are limited to ten (10) percent of the sub-agreement direct charges.

(See indirect cost example below)

Indirect costs example

Scenario

- The PI is from a university or federal agency (lead institution)
- Co-PI is from a cooperating university or NGO (cooperating institution)
- The calculated expenses in the Budget for the lead institution are $200,000 (salary, fringe benefits, travel, equipment, etc.)
- The calculated expenses in the Budget for the cooperating institution are $40,000

Calculation of indirect costs

1. Cooperating institution

Maximum allowed indirect costs (20%)

$40,000 * 0.20 = $8,000

Total Budget for cooperating institution

$40,000 + $8,000 = $48,000

Note: If there are multiple cooperating institutions this calculation would be performed for each institution.

2. Lead institution

Maximum allowed indirect costs (20%) on own Budget

$200,000 * 0.20 = $40,000

Maximum allowed pass-through indirect costs (10%) on cooperating institution Budget

$48,000 * 0.10 = $4,800

Total Budget for lead institution

$200,000 + $40,000 + $4,800= $244,800

3. Total Budget = $244,800 + $48,000 = $292,800

Points of emphasis

- Lead institutions can include pass-through costs for each cooperating institution in their Budget
- Pass-through costs are calculated based on the total Budget for each cooperating institution, including the indirect costs calculated by the cooperating institution
- Cooperating institutions do not include pass-through costs in their Budgets
- Institutions should use their negotiated indirect cost rates with their cooperating institutions, but cannot exceed JFSP maximums

3. SBIR Costs

Certain proposals may be required to pay a percentage of the project's costs into the Small Business Innovation Research (SBIR) program. Proposals where the funds are transferred to a Forest Service institution and subsequently award a portion of the total budget to a non-federal entity through a sub-agreement or sub-contract may be required to pay the prevailing rate of the total funds awarded externally to the SBIR program. Check with your Agreements contact to determine if this applies to your proposal and to determine the current rate.

4. Salary Policy

Normally, salaries of permanent full-time federal employees are expected to be provided by their agencies. This is also true of university faculty on 12-month tenure-track appointments. These employees are already fully funded by their institutions. However, the Governing Board recognizes there can be unique situations where the Governing Board may agree to fund the salary of permanent employees.

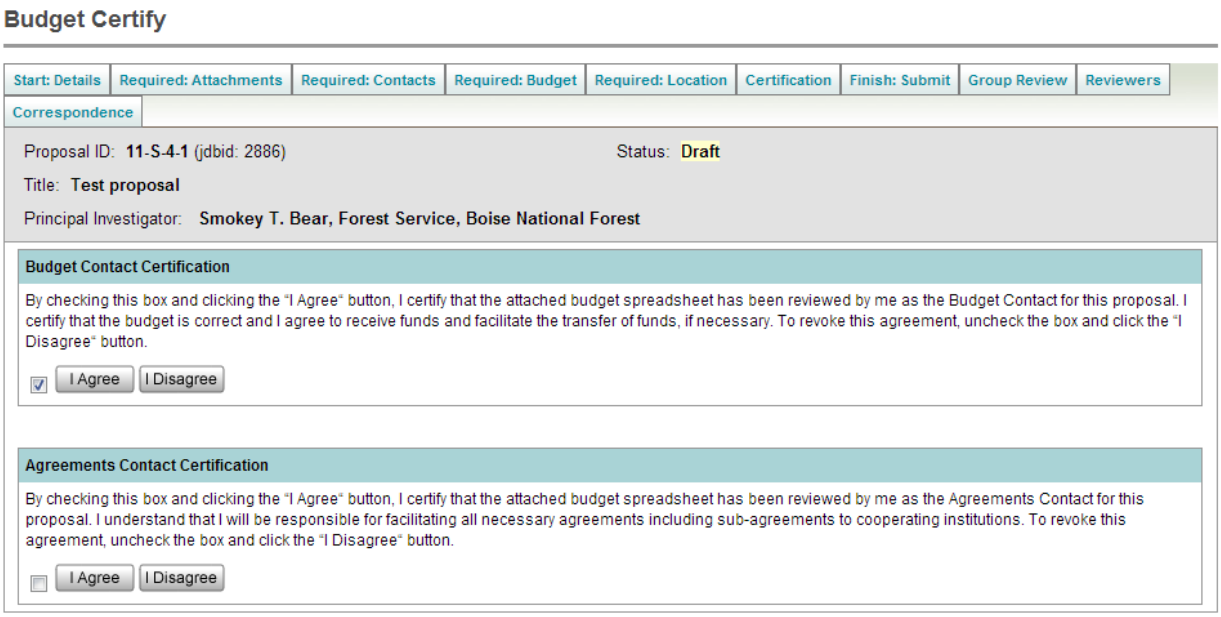
A detailed justification for funding the salary of permanent employees must be included in the proposal to be considered for funding. The justification should indicate all sources of funding, including other pending projects and associated full-time equivalent (FTE) for the permanent position for which salary funding is requested. The justification must be signed by the supervisor of the individual requesting salary.

You must use the format found on the attachments tab for the certification. In addition, permanent employee salary costs must be explicitly identified in the project budget. The Governing Board requires no special justification (other than a brief description of the need for the position in the budget justification section of the proposal) for funding part-time, temporary, term employees, post-doctoral employees, graduate, or undergraduate students. Stipends are normally funded, but tuition fees will not be funded.

5. Budget

Budgets must be reviewed by your Budget contact and your Agreements contact to ensure all costs have been included and the budget is correct. JFSP will not provide additional funds to cover errors discovered after the proposal submission deadline.

NEW THIS YEAR: The Budget contact and Agreements contact must sign in to the JFSP system and certify the budget is correct and they understand their role in receiving funds and facilitating agreements. Proposals cannot be submitted by the PI if both contacts have not completed this task in the database. (**See screen print below**)

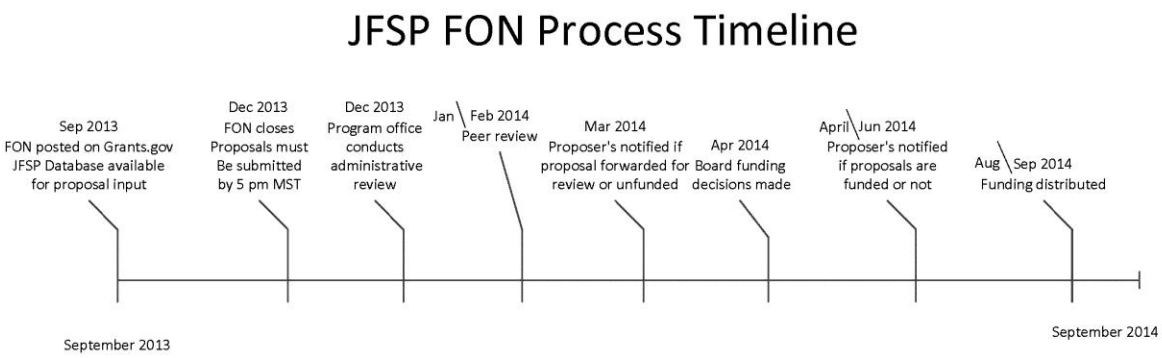


Budget spreadsheets should include a separate detailed budget worksheet for each institution requesting funds (See Template).

Proposals will be funded via Inter-agency agreement, cooperative agreement, or budget transfer. Please talk to your Budget contact and Agreements contact to ensure your budget has the correct indirect rates for your circumstances.

The JFSP Governing Board does not fund projects that are, or should be, funded internally from existing accounts (such as routine agency monitoring) or operational portions (such as the installation of fuels treatments or development of fire management plans) of other projects.

Funding is usually distributed in late summer; please plan budgets accordingly (**See proposal timeline below**).



E. Data Management Plan (DMP)

It is the intent of JFSP that all data collected or generated through JFSP funds are of high quality and made freely available to others within a reasonable time period. JFSP recognizes that preparation of data and metadata for publication is a time consuming process. Adequate funds to support this work should be included in proposal budgets.

DMPs must be attached as a separate document and are limited to two pages maximum. DMPs will be considered in the proposal review process.

DMPs must contain the following (see DMP template and instructions for further detail):

- Description of data type, scale, resolution, and format for all data to be submitted to a data repository
- Steps used to process and quality assure the data
- Specific data repository intended for long-term data storage
- Metadata language used to describe the data
- Provisions for data access and necessary limitations to protect sensitive data
- For modeling studies, only data generated for model input should be included in the DMP.

All collected or generated data should be evaluated for errors, and subjected to data proofing and validation procedures.

Investigators must select a data repository well suited for long-term archival, publication, and data sharing of data collected or generated through JFSP funding. JFSP recommends use of the Forest Service R&D data archive (http://www.fs.usda.gov/rds/archive/). If you would like to discuss the archive's services, please contact archivist Dave Rugg (drugg@fs.fed.us) or associate archivist Laurie Porth (lporth@fs.fed.us).

Submission of data sets and metadata will be required at the time of final report submission. JFSP will review the data and metadata to ensure that all required information is provided (including a pointer in the metadata to the location of the data). After successful review, the metadata will be provided to the Forest Service R&D data archive (http://www.fs.usda.gov/rds/archive/), which will provide the central metadata catalog for all JFSP projects. The PI is responsible for keeping the metadata in the official catalog current over time.

PIs can limit release of data sets for up to two years following submission of the final report. At the end of this period, all data sets will be made publicly available. All extensions of this deadline require extenuating circumstances and approval by the JFSP Program Manager.

F. Additional Application Requirements

Proposals must meet all of the following requirements to be considered. Incomplete proposals will not be considered. There will be no exceptions to either the submission deadline or other submission requirements. If you have questions about these requirements, please contact the JFSP Program Office for clarification (Becky Jenison 208-387-5958, or John Cissel 208-387-5349).

1. **Proposal Submission**
   Proposals must be submitted electronically via the JFSP website (www.firescience.gov). Proposals should not be submitted in Grants.gov. Hard copy, email, or facsimile proposals will not be accepted. Proposals can be created in the database at any time and saved for submission any time prior to the closing date & time.

   - Proposers must have a JFSP database login and password to submit a proposal. Requests for access will be processed in approximately 24 hours.
   - The Budget contact must sign into the system and certify the budget is correct before proposal can be submitted. Note that the PI will not be able to complete this task for the Budget contact. PI must assign this contact on the contact tab before the Budget contact can sign in to complete this process.
   - The Agreements contact must sign into the system and certify the budget is correct before proposal can be submitted. Note that the PI will not be able to complete this task for the Agreements contact. PI must assign this contact on the contact tab before the Agreements contact can sign in to complete this process.
   - Only the PI can submit the proposal.
   - Proposals can be saved in the JFSP system and submitted prior to the closing date and time. Submitted proposals can be reverted back to final draft by the PI prior to the closing date. If you revert a proposal back to draft you must resubmit the proposal before the closing date and time.
   - The JFSP proposal submittal system will not allow proposals to be submitted after the closing date and time.

2. **Profiles**
   - **All** contacts must have a profile in the JFSP database and must be entered on the contacts tab.
   - Proposals cannot be submitted if all required contacts (see Contacts below) are not entered on the contacts tab by the PI.
   - It can take up to 24 hours to get a profile created. It is advisable to request profiles early in the process.

3. **Contacts**
   Proposals may be required to have the following contacts (see Section VI. Definitions to understand the role of each contact) assigned to a proposal:
   - Principal Investigator (required, only one Principal Investigator can be assigned)
   - Funding Cooperator (may be required, see Section III.B. funding cooperator)
   - Budget Contact (required)
   - Agreements Contact (required)
   - Co-PIs and Collaborators (options)

   It is the PI's responsibility to ensure all correct contacts are entered into the proposal. Please read Section VI. Definitions carefully to ensure you have the correct contact from the correct institution listed.

4. **Confirmation Page**
When you submit your proposal you will receive a confirmation page. We highly recommend that you save or print this page for your records. If you do not receive this confirmation page you have not submitted your proposal correctly.

You should receive an email from the JFSP Program Office letting you know that your proposal has either been forwarded for review, or rejected for not meeting administrative requirements. If you do not receive this email by the end of December, you should fax or email your confirmation to Becky Jenison at bjenison@blm.gov or fax: 208-387-5960.

5. **Attachments**
All required documents and templates must be attached before the proposal can be submitted. All attachments except the budget must be attached as a pdf document; the budget template is in an Excel format. Attachments over the page limit cannot be submitted. All information in a template must be included as part of that attachment and must be within the page limit. Extraneous materials (e.g., extra graphs and text) are not permitted and will not be reviewed.

Required attachments for all proposals:

- Proposal body
- C.V.s (PI: two-page maximum, Co-PI(s): one-page maximum)
- Budget spreadsheet (Excel spreadsheet, includes a separate worksheet for each institution requesting funding)
- Budget narrative (Explanation of specific budget assumptions and costs)
- Data Management Plan (see below)

Additional attachments:

- Letter(s) of support (optional, but recommended)
- Salary justification (may be required, see below)
- Specific to a task statement (check the applicable task statement for additional requirements)

6. **Data Management Plan**
All proposals are required to submit a Data Management Plan (DMP) using the instructions, template, and example provided (See Section IV. D above).

7. **Budget**
Budget summary numbers summarized by institution type requesting funds must be input in the JFSP database on the Budget tab. The budget detail must be attached on the attachments tab using the spreadsheet template provided. Proposals cannot be submitted without completing these required fields and attachments.

8. **Task Statement Intent**
Proposals that do not clearly and directly meet the intent of the task statement selected will not be considered for funding. Please make sure you are submitting your proposal for the correct task statement.

9. **Format**
   Proposals not following the required template will not be considered. Proposals must use an 11 point font or larger. Additional guidance is included in the beginning of each template.

10. **Page Limits**
    Attachments exceeding the page limit cannot be submitted. Page limits may vary by task statement and attachment; check the page limit in the template and JFSP database for each specific task statement. Everything in the template is included in the page limit.

11. **Project Location**
    Project location fields must be completed on the location tab for a proposal to be successfully submitted. Instructions are listed on the project location tab.

12. **Signatures**
    Handwritten signatures are not required. When Principal Investigators (PIs) submit proposals they will be prompted to input their password. By typing in the password and submitting a proposal, PIs are certifying that all contacts on the proposal have reviewed the proposal and understand what their role requires.

13. **Indirect Costs**
    Proposals must follow JFSP indirect cost guidelines. (See Section III. B above)

14. **In-Kind Contributions**
    See Section III. C above.

15. **Support Letters**
    Support letters are encouraged, but not required. Support letters are useful if they show understanding of the proposed work and the author articulates how the work will benefit them. Support letters that appear to be ghost-written by the PI or are form letters are much less useful. If submitted, letters must be combined into one pdf document and attached on the attachments tab. Support letters sent by hard copy or email directly to JFSP will not be considered.

16. **Salary Justifications**
    Salary justifications may be required (see Section IV. D above).

17. **Past-Due Projects**
    No proposals will be considered if the work includes a PI or Co-PI who is a PI or Co-PI on a JFSP project that is past due as of the closing date of this announcement. See the JFSP website for the complete JFSP past-due and extension request policy.

SECTION V. APPLICATION REVIEW AND EVALUATION

Overview

Proposals will be reviewed in four stages:

1. JFSP Program Office – Administrative requirements and task statement intent
2. Peer Review – Relevancy, technical merit, products, and feasibility

3. Governing Board Review – funding decisions
4. Statistical Review (optional) – Adequacy of study design and analysis methods

Review Criteria

Note: Review criteria are not arithmetically scored or weighted. However, applicants should note that the technical merit criterion is given particular attention. Proposals that do not receive strong technical merit reviews are unlikely to be funded.

Task statement responsiveness

- Does the proposal directly address the task statement?
- Are there significant elements of the proposal that are off-task?
- Will the intended results be useful to a broad cross-section of the fire, fuels, and resource management community?

Technical merit

- Does the proposal address scientifically important questions?
- Are objectives, questions and hypotheses clearly articulated?
- Can the questions or hypotheses be answered with the proposed design and analysis?
- Are the methods sufficiently rigorous to produce credible results?

Deliverables and science application

- Are there important and useful applications and deliverables described in the proposal?
- Is the scope and scale of planned applications and deliverables sufficient to have meaningful impact?
- Is there a sufficient plan to exchange results with relevant audiences?
- Where relevant, is there evidence that investigators have collaborated with the JFSP Knowledge Exchange Consortia to develop science delivery plans?

Budget

- Is the requested budget reasonable and realistic for the scope and scale of the proposed work?
- Does the proposal budget contain substantial in-kind contributions?
- Does the budget narrative provide sufficient explanation and justification for the requested budget?

Feasibility

- Does the project team have the skills and qualifications to execute the proposed work?
- Is the schedule reasonable?
- Have all likely barriers been identified and mitigated?
- Have managers been involved where appropriate?
- Is the probability of success high?

SECTION VI. DEFINITIONS

Funding Opportunity Notice (FON): The official label for the Joint Fire Science Program method of requesting project proposals. The FON includes task statements for which proposals are sought, instructions for proposal submission, and related information.

Principal Investigator (PI): The individual identified in a proposal who is the research lead for the project. This individual is responsible for coordinating all research related activities and will be the primary science contact for the project. In addition the PI is responsible for communicating and coordinating with Co-PIs and others on the research team. The PI is responsible to JFSP for completion of the project.

Funding Cooperator: The funding cooperator receives funds from JFSP and is responsible for distributing funds to other cooperators. A funding cooperator is only required if the PI is non-federal and a federal institution is requesting funding, or if the work is being completed through a private business, or requests international funding. The funding cooperator is responsible for coordinating with the PI, the Agreements contact, and the Budget contact on administrative activities for this project. The funding cooperator will be one of the primary contacts for the project and should stay informed and involved in project activities.

Budget Contact: Budget contact must be from the institution receiving funds from JFSP. This person is responsible for ensuring the budget details are correct prior to proposal being submitted and agrees to receive funds and facilitate the transfer of funds, if necessary. Budget contact must be from the institution receiving funds from JFSP. If a federal agency is requesting funds the Budget contact must be from the federal cooperating agency.

Agreements Contact: Person from institution receiving funds from JFSP that is responsible for facilitating the receipt of funds and the execution of any agreements or contracts necessary for a proposal if it is selected for funding. If a federal agency is requesting funds the Agreements contact must be from the federal cooperating agency.

Co-Principal Investigator (Co-PI): The individual(s) identified in a proposal who will work with the research lead on the project and makes a substantial contribution to the project. Co-PIs are responsible for communicating and coordinating with the PI.

Indirect Costs: Those costs that are a percentage of the total cost used to pay for overhead/administrative costs attributable to a specific research project. Examples include the costs of operations and maintenance such as janitorial, phone, and clerical services. The Joint Fire Science Program recognizes two types of indirect costs: 1) "in-house" costs incurred by the agency, institution, or unit completing the research; and 2) "pass-through" costs associated with sub-awarding project funds to another agency, institution, or entity for the purpose of completing research or science delivery.

Joint Fire Science Program Governing Board: An appointed 10-person Board representing the JFSP partnering agencies. The Board provides strategic direction and oversight to JFSP, identifies important research questions, selects proposals for funding, supervises the JFSP Program Manager, and conducts related business.

Science Exchange and Application: The exchange of information, materials, models and other research deliverables to end users, along with adequate information and training to apply the deliverables. Examples of active methods include workshops, training sessions, guided field tours, conferences, meetings, and symposia. Examples of passive methods include published papers and websites. A combination of active and passive methods is preferred. Collaboration with the regional JFSP Knowledge Exchange Consortia is recommended.

Task Statement: A specific area of interest identified in the FON, for which project applications are sought.